Play Strategy for Scotland: Evidence, Outcomes and Logic Models

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INTRODUCTION

The *Play Strategy for Scotland: Our Vision* sets out the Scotland Government aims to ensure that Scotland is 'the best place in the world to grow up. A nation which values play as a life-enhancing daily experience for all our children and young people; in their homes, nurseries, schools and communities' (The Scottish Government, 2013).

The purpose of this paper is to review the evidence of the benefits and outcomes of play for children, and to look at how these benefits and outcomes fit into the SHANARRI wellbeing framework and the Government's National Performance Framework more generally.

A number of previous reviews were drawn upon (including Coulter and Taylor, 2001; Cole-Hamilton et al, 2002; Lester and Russell, 2008 and Whitebread, 2012), and a library search of key terms was carried out to ensure the evidence was both comprehensive and up-to-date.

EVIDENCE AND OUTCOMES

It is widely acknowledged that children benefit from play in a number of ways; however, there are a number of conceptual and methodological problems with providing robust evidence of these benefits.

Conceptually speaking, play is complex and diverse. Moreover, it is common to refer to the 'psychological and sociological processes which define an activity as "play"' - an activity that is freely chosen, intrinsically motivated and characterised by means and not ends (Coulter and Taylor, 2001). As David Whitebread (2012) notes, because of this 'highly multi-faceted nature and the fact that it is an intrinsically spontaneous and unpredictable phenomenon, [play] has proved to be extremely difficult to define and research'.

From a methodological prospective, Coulter and Taylor (2001) outline the problems of evidencing the proposed benefits of play:

- Theoretically speaking, the optimal way to establish the effects of play upon children would be via a deprivation study – that is, by comparing groups of children with and without play; however, this would have some serious ethical consequences.
- Given that play research is focused on children and young people, there is limited scope for using traditional research instruments.

Because of these difficulties, definitively establishing the benefits of play is unlikely. However, a considerable body of research has developed in recent years – which is largely observational, theoretical, based upon neuroscience or play enrichment experiments with animals – which points towards the benefits of play for children and young people.

It must be noted here that literature reviews on the subject consistently acknowledge that research is unduly weighted towards play in early childhood (Rogers et al 2009

Coulter and Taylor 2001 and Cole-Hamilton et al 2002). Rogers et all (2009), for instance, found that 'traditionally, play has been associated with early childhood, and as such much of the literature deals with the early development of play in the under-fives […] By contrast, little attention has been given to the play of older children, particularly from six through to adolescence'.

Enjoyment: First and foremost, children and young people benefit from play due to the fact that it is enjoyable, fun and promotes positive feelings. As Lester and Russell (2012) argue 'play is primarily behaviour for its own sake, for the pleasure and joy of being able to do it'.

In 2010, Play England held a number of focus groups with children aged between 7 and 14 in England, Scotland, Wales and Northern Ireland. When asked about their views on play, children in the groups saw play as a means to 'have fun, be with their friends, be creative, use their bodies, enjoy themselves and feel free'.

Physical Health: Energetic, active play is recognised as providing an effective form of physical activity for children and young people (Lester and Russell, 2008; Pulsen and ziviani, 2004). Such physical activity is conducive to a whole range of benefits including healthy levels of blood pressure and obesity prevention. However, given the freely chosen nature of play it cannot be guaranteed to be active and energetic in this way every time.

Adaptability: In the recent literature, it is argued that play enables children to develop the ability to respond flexibly and adaptably to uncertain situations.

Pellegrini et al (2007) argue that in play children deliberatively seek out uncertain situations where they can improvise responses. Drawing on this, as well as the work of Bateson 2005, Pellegrino et al 2007 and Spinka et al 2001, Lester and Russell (2008) argue that play enables children to 'sample their environments' by responding to uncertain situations with novel behaviour. This in turn enables children to 'adapt to, survive and thrive in her or his social and physical environments'.

Emotional regulation: Russell and Lester (2012) argue - citing Sutton-smith 2003, Spinka et al 2001, Gaylor and Evens 2001 and panksepp 2007 - that encountering uncertain situations in play, enables children to develop the ability to regulate emotions: 'emotional reactions to unexpected and unpredictable events are modulated, or calibrated, in the relatively safe frame in which play occurs'.

When playing, children are trying out new things and learning to adapt to these new experiences, allowing them to start developing strategies for responding emotionally in real-life situations: 'Play offers the opportunity to create and resolve uncertainty, not so much when placing oneself in jeopardy, but more in relation to feelings of excitement, courage and resilience in the face of imagined disaster'.

Resistance to stress and anxiety: An example of this is adapting through play to respond to stress and anxiety. Research suggests that the experience of moderate levels of stress can strengthen resistance to stress in the future (Panksepp 2001, Rutter 2006, Haglund 2007). Moderate levels of anxiety or stress experienced

during the safe environment of play may be beneficial for strengthening resistance to stress in the future: thus helping children to 'roll with the punches' (Sivly 1998).

Risk assessment: The experience of the unexpected that is gained through play is argued to be central to how children learn how to manage risk. In a literature review of the role of play and risk, Gleave (2008) finds that 'a recurrent theme in the literature is that children benefit environmentally from risk in play, and that over-protection from risk can inhibit development'.
Gill (2007) argues that in free play, with children able to manage their own risks in a controlled environment, children are able to learn essential skills for adult hood. Denying children this opportunity, asserts Gill, may result in either a risk-averse society or in children finding more dangerous ways to seek risky behaviour.

Christensen and Mikkelsen (2009) conducted an ethnographic study of risk taking with 35 children and 14 families, which lead them to conclude that when children engage in risky play, they are building their understanding and capacities for health. The researchers note that negotiating with risk in play is an important means that children learn from mistakes and become aware of their safety.

Friendship and attachment: There is a lot of research confirming the central role that play has in developing strong attachments. Whitebread - citing Bowlby 1953, Ainsworth et al 1978, Swain et al 2007, Feldman 2007, Schore 2001, Panksepp 2001 and Panksepp 2007 - notes that 'we now have abundant evidence that the formation of secure emotional attachments early in a child's life has significant consequences for health brain development […] for emotion regulation [...] for emotional resilience [...] and for playfulness […] of particular importance in this area is the crucial role of playfulness in children's formation and maintenance of friendships, which are, in turn, fundamentally important in supporting healthy social and emotional development'.

Similarly, Lester and Russell note that 'Play has a central role, from the first moments of life through to adulthood, in developing strong attachments (panksepp 2001; Schore 2001; Decety and Jackson 2005). Forms of pretend play, role play and rough and tumble play enable children to develop highly sophisticated attachment systems (Goodwin 2006, freeman and broawn 2004, pellis and pellis 2007), particularly during middle childhood when peer friendships take more significance (Booth-Laforce and others 2005; Pansepp 2007; Mathur an Berndt 2006)'.

Cognitive ability and problem solving abilities: Taylor and Coulter note that 'Many theorists (Birch, 1945; Bruner, 1972; Jackson, 1942; Kohler, 1925; Schiller, 1957; Van Lawick-Goodall, 1968; Yerkes, 1927) who have undertaken research both with animals (mostly chimpanzees) and children claim that play has cognitive benefits'.

When discussing problem solving abilities, Barnett (1990) argues while there does not appear to be a direct correspondence between playful experience and subsequent task performance, 'the literature does suggest […] that play provides the individual with a flexible approach to his/her environment, and contributes to the development of a generalized mode of cognitive approach which the individual utilizes in problem situation'. Similarly, Lester and Russell (2012) argue that 'the

relationship between play, creativity and learning is less to do with the development of technical and problem-solving skills and more to do with the flexibility and non-serious interpretation of disparate stimuli … The simple fact of being prepared for uncertainty and the unexpected suggests that children are capable of 'moving into new environments, new modes of thought and feeling and new adaptive zones'.

A number of neuroscientific studies back this up. Pellis and Pellis (2009), for instance, have discovered a strong relationship between the play behavior of rats and physiological changes in their brains. The researchers show that playing 'significantly elevated levels of brain-derived neurotrophic factor (BDNF), which is recognised to have a central role in developing and maintaining neural plasticity (or, the ability to learn)' (Whitebread, 2010).

Language development: Finally, a review of literature on play and language (Levy, 1984, in Moyles, 1989) found an 'undeniable association' and concluded that play was an "...effective medium of stimulating language development and innovation in language". Although, as Coulter and Taylor (2001) argue, it may be the socially interactive element of play that encourages the development of language rather than play itself.

Deprivation studies: As aforementioned, direct research of the consequences of depriving children of play would have serious ethical consequences and so have not been conducted. However, there are some circumstantial deprivation studies, which, although not perfect, do add to the evidence base and point to similar conclusions.

Brown (1998) found consistent child and adult play deficits in a criminally violent young men. Valentino et al (2011) found that children in maltreating families displayed less child-initiated play and less socially competent behaviour than children of the same age in non-maltreating families. Chugani et al (2001) discuss the many studies of the severely deprived children discovered in Romanian orphanages following the breakup of the Soviet Union and report a range of severe cognitive and emotional deficits.

There are obvious pitfalls to this evidence – the lack of play is part of a wider pattern of deprivation, and so cause and effect cannot be robustly identified. More telling evidence arises when play is introduced to children in such circumstances (Whitebread, 2012). Taneja et al (2002), for example, introduced a structured play regime into an Indian orphanage and reported highly significant gains on measures of motor, cognitive and social functioning.

LOGIC MODELS

This part of the paper identifies how the benefits and outcomes identified in the review of evidence fit with the Scottish Government's SHANARRI wellbeing framework and the National Performance Framework more generally.

In order to do this, two logic models have been created. The first logic model outlines the actions and intended outcomes of the Play Strategy, along with the identified outcomes of play, the SHANARRI outcomes framework and the relevant parts of the national performance framework. The second logic model looks more

specifically at how the identified benefits and outcomes of play for children contribute to the Scottish Government's SHANARRI outcomes framework.

A word of caution is needed here. While interpreting the logic model presented below, keep in mind that the relationship between play and outcomes for children is complex and not necessarily as linear and causally simplistic as the model may make it seem. As Lester and Russell (2008) note, 'attempts at fitting the wide-ranging evidence generated […] runs the risk of reducing this highly complex form of behaviour into simplistic linear and causal relationships'.

Enabling and supporting children's play				Outcomes for children			
Inputs	**Activities and outcomes**			**Short- and medium-term outcomes**		**SHANARRI Outcomes**	**National Outcomes**
Scottish Government Health Agencies Third sector Communities Individuals Media Play practitioners Parents and carers Politicians Planners Policy makers	Implementation of Play Strategy Action Plan	Parents, carers and families are able to facilitate play opportunities in the home and family environment Children have more satisfying and wide-ranging play opportunities Staff have the skills, knowledge and confidence to engage with parents, carers and families school staff and early years practitioners receive play training and have sufficient skills, knowledge and understanding of play to support play opportunities. Schools and settings have well designed, inclusive spaces for play in local communities. Education managers and leaders demonstrate their commitment to increasing and developing play opportunities and to supporting staff to do so. More children playing more often in outdoor places including green space, parks and streets. Children and young people able to find clean, safe and welcoming spaces to play and gather near their homes where they are not considered a nuisance by others in their communities	Our homes and family environment are places where children and young people enjoy plentiful play opportunities, indoor and out, appropriate to their age, stage, ability and preferences. All children and young people enjoy high quality play opportunities, particularly outdoor free play in stimulating spaces with access to nature, on a daily basis in school, nursery and early learning and childcare. All children and young people have sufficient time and space for playing within their community and have contact with nature in their everyday lives. Play is valued, encouraged and supported in communities, as are providers of community play opportunities such as out of school care, playgroups, therapeutic and specialist settings and community champions of play. Scotland provides a positive environment for play through: a professional workforce and strong and visionary leadership; a well-resourced third sector and infrastructure; and a supportive and informed media.	Enjoyment Opportunities to interact with others Opportunities for activity Opportunity to seek out uncertain situations Opportunity to respond to uncertain situations with novel behaviours Opportunity to sample the physical and social environment	Increased risk management skills Increased understanding and capacity for health Increased adaptability and flexibility to uncertain situations Increased self-esteem and self-efficacy Increased ability to survive and thrive in social and physical environment increased ability to regulate emotions Increased resilience to uncertain and unexpected events Increased resistance to stress and anxiety Improved physical fitness Development of a flexible cognitive approach to problem solving Development and maintenance of neural plascity (the ability to learn) Development of language Increased ability to form strong attachment relationships increased ability to form and maintain friendships Decreased chance of children finding more dangerous ways to seek risky behaviour	Safe Healthy Achieving Nurtured Active Respected Responsible Included	Children have the best start in life and are ready to succeed Our young people are successful learners, confident individuals, effective contributors and responsible citizens We have improved the life chances for children, young people and families at risk

National Outcomes							
Children have the best start in life and are ready to succeed			Our young people are successful learners, confident individuals, effective contributors and responsible citizens			We have improved the life chances for children, young people and families at risk	
SHANARRI							
Safe	**Healthy**	**Achieving**	**Nurtured**	**Active**	**Respected**	**Responsible**	**Included**
Safe from maltreatment, in the home school and the community Reduced risky behaviours by children and young people safe from accidental injury and death Safe from crime and anti-social behaviour	Improved physical health in CYP CYP maintain healthy lifestyles Healthy, positive pregnancies and births Improved mental health in CYP	Improved education levels and skills of CYP Increased aspirations of CYP Improved positive destinations for CYP Improved early development	More resilience, stable strong families Improved parenting skills Early identification and effective intervention with children at risk	CYP regularly engage with and participate in sport and physical activity CYP regularly engage with and participate in cultural and recreational activities	Public's perception of CYP is positive All CYP feel valued by their parents, family and society	CYP who offend are dealt with appropriately, proportionately and timely to meet their needs and address their needs CYP are aware of the consequences of their actions Reduced young people's offending and re-offending rates	CYP are engaged in decision making and planning Improved attendance and exclusion rates in schools CYP have equal access to opportunities Effective care planning
Short and Medium-term outcomes for children							
Increased risk management skills Increased understanding and capacity for health	Enjoyment Increased understanding and capacity for health Increased self-esteem and self-efficacy Increased ability to regulate emotions Increased resilience to uncertain and unexpected events Increased resistance to stress and anxiety increased ability to form strong attachment relationships Increased ability to form and maintain friendships More opportunities for activity Improved physical health	Development of a flexible cognitive approach to problem solving Development and maintenance of neural plascity (the ability to learn) Increased language skills	Opportunities to interact with others Increased ability to for strong attachment relationships	Opportunities for activity Improved physical fitness	Increased ability to for strong attachment relationships	Opportunity to seek out uncertain situations Decreased chance of children finding more dangerous ways to seek risky behaviour Increased ability to regulate emotions	Increased ability to form and maintain friendships Increased ability to for strong attachment relationships

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